CLAIMS:

1. A method for writing data in a storage medium comprising polymer material by modifying its optical properties, said method comprising the steps of:
- heating up the material above the glass-transition temperature (Tg), and
- initiating the writing by reorientation of photo-orientable-groups in the polymer material by means of illuminating with light at a wavelength and for a time period, or other means, that initiates the reorientation.

2. A method according to claim 1, wherein the photo-orientable groups are one or more anistropic groups present in the polymer material.

3. A method according to claim 1 or 2, wherein initiating and heating are performed by means of a single beam.

4. A method according to claim 1 or 2, wherein initiating is performed by means of a first beam and heating is achieved with a second beam.

5. A method according to any one of the claims 1-3, wherein initiating is performed during a time period which is much shorter than a time scale on which the polymer, preferably an LC polymer, reorients, typically a time period within a nanosecond time regime such as 10-50 ns.

6. Device for optical data storage, comprising:
- polymer material as storage medium,
- means for heating up the material above the glass-transition temperature (Tg), and
- means for initiating the writing by reorientation of photo-orientable-units of the polymer by illuminating with light at a wave-length and for a time period, or other means, that initiates the reorientation, whereby data can be stored in the polymer material by modifying its optical properties

7. Device according to claim 6, wherein the polymer material comprises one or more anisotropic polymers.

8. Device according to claim 6 or 7, wherein a polymer layer, preferably a polymer film, is provided on a transparent base plate.

9. Device according to any one of the claims 6-8, wherein said device comprises combined heat source means and light source means, whereby said polymer film may be heated and the molecular order or orientation of said film may be varied.

10. Device according to any one of the claims 6-9, wherein said device comprises physical orientation means such as an alignment layer, and/or transparent electrode means for orientation of the polymer layers before writing.

11. Device according to any one of the claims 6-10, wherein said heating source means and/or light source means comprises a laser.

12. Device according to any one of the claims 6-11, wherein absorption properties of said polymer film provide data to be stored with a laser beam of a particular wavelength and intensity and read out with another laser beam having a different wavelength, or different intensity significantly below the writing threshold, not disturbing the stored data.

13. Storage medium comprising polymer material, adapted to store data by modifying its optical properties, said polymer material comprising photo-orientable groups (R_1-R_4), which can be reoriented upon illumination with light at a wave-length and for a time period that initiates the reorientation, which can self-develop at a suitable temperature, typically above the glass transition temperature (Tg).

14. Storage medium according to claim 13, comprising groups selected from: azobenzene, biazobenzene, triazobenzene and azoxybenzene, as well as alkyl substituted derivatives of the same, stilbene or spiropyran groups.